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ABSTRACT

This study examined research productivity over the course of the professional career and its relationship with tenure. It hypothesized that the rate of scholarly productivity does not decrease after tenure, and further, that the amount of activity of older faculty is comparable to new faculty. Data were collected from the curriculum vitae of current full-time, tenure-track faculty in the College of Education at the University of Illinois in the fall of 1998. Findings indicated a moderately positive correlation between the rate of productivity (measured by number of journal articles and book chapters published) before tenure and after tenure. The notion that the post-tenure years are a time of relative languor and sluggishness is not borne out in the data. (Contains 18 references.) (EV)

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Introduction

It has been nearly sixty years since the American Association of University Professors and the Association of American Colleges mandated a formal procedure to handle cases of professorial dismissal. The document, which has become a prototype for tenure guidelines at most major universities, states that:

> "Institutions of higher education are conducted for the common good and not to further the interest of either the individual teacher or the institution as a whole. The common good depends upon the free search for truth and its free exposition. Academic freedom is essential to these purposes and applies to both teaching and research. Freedom in research is fundamental to the advancement of truth."

However, the argument that tenure is necessary for academic freedom has come under renewed attack, not only from university administrators but also from society at large. There have been several stories in major newspapers and magazines that have assailed the academy for its seemingly limited impact on the world outside the university as well as its substantial economic cost, along with the dismissal of academic freedom and the pursuit of truth as defensible constructs. Tenure is seen as the crux of the problem. Even professors themselves have been criticizing tenure for its obsolescence (Huer, 1991).

The most common attacks against tenure are most notably that it 1) protects "deadwood," those academics who perhaps never should have been hired in the first place, 2) creates an atmosphere of laziness and slothfulness, after "guaranteeing" employment, and 3) is an antiquated notion that exists nowhere else in society (Chemerinsky, 1998; Hutcheson, 1996; Machlup, 1964).

The current study attempts to address the first and second points by examining research productivity over the course of the professional career and its relationship with tenure. Several studies have been previously conducted to correlate research productivity to tenure achievement and it has been substantiated that productivity is valued in tenure reviews over quality of teaching and service (Hofstadter & Metzger, 1955; Layzell, 1996). There have been attempts to quantify productivity in a meaningful and standardized way for the purposes of tenure review (Zamarripa, 1994-95). A few of these studies have outlined strategies for increasing productivity from the administrative level, or a top-down approach (Massy & Wilger, 1995; Ramsden, 1994).

The current study will take some of its cues from a study by Print and Hattie (1997). In the Print and Hattie study a procedure was devised to identify and weigh various indicators of college faculty research productivity as one measure of program quality. Highly valued indicators of research productivity included refereed journal articles, peer reviewed books, and major competitive research grants. The procedure was tested by comparing the departments of several research institutions based on their level of quality productivity. However, Print and Hattie did not attempt to use their procedure in evaluating the effects of tenure.

A secondary tenet of the "deadwood" argument is that older faculty does not produce to the level of their much younger, more motivated scholars. The topic has been scrutinized

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recently in a set of studies where more- and less-experienced faculty are evaluated (Bonzi, 1992; Kyvik, 1990; Lawrence & Blackburn, 1988; Levin & Stephan, 1989). In a case against mandatory retirement, Battersby (1993) showed that older scholars outproduce younger ones by a significant margin. Nevertheless, none of the previous studies examined productivity in the context of tenure.

The rationale for the current study is to provide some quantitative data to the tenure debate. Our hypothesis is that the rate of scholarly productivity will not decrease after tenure. Further, that the amount of activity of older faculty will be comparable to those who are new to the ranks.

Method

Data were collected from the curriculum vitae of current full-time, tenure-track faculty in the College of Education at the University of Illinois in the fall of 1998. Of the 129 full-time faculty in the college, 15 had missing or incomplete vitae and were removed from the study. Data from the remaining 114 members of the faculty were used. The number of publications reported by the faculty was tabulated according to the year of publication. Publications were categorized according to whether they were indicated by the author to be books, book chapters, journal articles, technical reports, or monographs. Only the number of book chapters and journal articles were analyzed for the present study.

Eighty-six members of the faculty had been granted tenure when the data were collected. Of these tenured professors, it took an average of 6.20 years to achieve tenure ($\underline{M} = 6.20$, $\underline{SD} = 2.19$).

Results

Results of the comparisons between productivity before and after tenure were analyzed using paired-samples $\underline{t}$ tests. Because the scale of measurement was based on frequency counts, the square root of each count was used in the statistical analysis. However, the mean and standard deviations that are reported are based on the actual untransformed frequency counts. The first analysis used only the population of tenured faculty and revealed a significant difference between mean rates of publication before and after tenure for journal articles, $\underline{t}(85) = 2.282$; $p < .025$. The rates of journal article publication per year were significantly higher after the granting of tenure ($\underline{M} = 1.48$, $\underline{SD} = 1.15$) than before ($\underline{M} = 1.18$, $\underline{SD} = .84$). The same could also be said for book chapters. The analysis showed a significant difference in rate of book chapters published per year before and after tenure, $\underline{t}(83) = 2.430$; $p < .017$, where the annual rate of publication was one chapter every 2.56 years before tenure, versus a chapter every 1.35 years after tenure.

In examining the difference in publication rates for individual professors, 54 professors increased their rate of article publication after they achieved tenure, while 32 decreased. For book chapters the discrepancy was greater. 59 faculty had a greater average number of publications after tenure, and 21 had a greater average of number of publications before. The remaining faculty had the same rate before and after tenure.

When all faculty publications were pooled and examined according to the range of years they were published before and after tenure, small trends could be seen. In Table 1, the rate of article publication is highest during the first six years after tenure. There is a slow decline in the average rate for each six-year period, except for the 25-30-year range after tenure. For book chapters, the opposite trend is observed. There is a sharp increase in publication rate after tenure

and it continues to increase until it achieves the average of 1 book chapter a year in the 31-36-years-after-tenure range.

Table 1
Rate of article and book chapter publications per year based on six-year intervals before and after tenure

	Articles		Chapters	
	M	SD	M	SD
6 years before	1.19	.32	.34	.10
1-6 years after	1.60	.42	.65	.21
7-12 years	1.40	.24	.68	.25
13-18 years	1.19	.31	.69	.31
19-24 years	1.10	.25	.69	.38
25-30 years	1.39	.54	.80	.29
31-36 years	.92	.43	1.00	.25

Discussion

The degree of significant difference between production before and production after tenure is a moderate one, to be sure. Yet, the fact that the difference is in the direction in favor of post-tenure activity is contrary to public opinion. There are several plausible explanations. First, the probationary period of six years prior to tenure is said to be unrealistically short (Machlup, 1964). In the field of education it may be difficult to produce until a scholarly program of research has been established. Conversely, once a line of research has been established, a subject pool has been formulated, collegial relationships made, the work required to produce quality work is lessened. There are also other hardships placed on new assistant professors that are not taken into account. New faculty are often immediately challenged with difficult teaching schedules. As a rite of passage they may be given the largest classes to be taught at the most inconvenient times. They may require more preparation, along with test construction and grading. Other factors may influence productivity, such as the resources available to faculty (McGee & Ford, 1987; see also Golden & Carstensen, 1992; Meador, 1992; and Bland & Ruffin, 1992 for a discussion of critical factors important to research productivity).

Nevertheless, the years prior to tenure require young professors to publish or perish. The tenure review process at most major universities is still largely based on the quantity and quality of publications. The motivation exists to produce and produce at a high rate. The notion that the post-tenure years are a time of relative languor and sluggishness is not borne out in our data.

We found a moderately positive correlation (.34) between the rate of productivity before tenure and after tenure. Such a correlation is beneficial when computing a dependent samples t-test, but it also shows that to some degree those who are productive before tenure are also productive after tenure.

A great deal more studies like ours need to be completed in order for any evidence-based tenure debate to continue. Only continued analysis of the factors that are important to the academy, namely research productivity, will allow for educated decisions to be made at all levels of university government.

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